

AMENDMENT UNDER 37 C.F.R. 1.115
Application No. 08/320,273

as fossil fuel,--.

IN THE CLAIMS:

B1
1. (amended) A membrane process for the production of a desired very high purity permeate gas product from a feed gas mixture containing less than 40 vol% of the desired permeate gas, which process comprises providing in a primary stage a [the] process feed gas mixture to a primary membrane separator unit comprising a membrane having a relatively high intrinsic permeability, to provide an intermediate permeate gas and a retentate gas, and providing the intermediate permeate gas in a secondary stage to a secondary membrane separator unit comprising a membrane having a relatively high selectivity, to produce therefrom the [a] very high purity permeate gas product.

B2
4. (amended) A membrane process as in claim 1, wherein the primary membrane separator unit comprises a membrane with an intrinsic permeability of more than 250 Barrer/cm x 10⁴ and the [a] secondary membrane separator unit comprises a membrane with an intrinsic permeability of less than 250 Barrer/cm x 10⁴.

B3
6. (amended) A membrane process as in claim 1 which further comprises using [the] products of fossil fuel combustion as the

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process feed gas mixture.

7. (amended) A membrane process as in claim 1 which further comprises using [the] products of hydrocarbon combustion in air as the process feed gas mixture.

B3
cont.
8. (amended) A membrane process as in claim 1 which further comprises using [the] products of fossil fuel combustion in a limekiln [lime kilm] as the process feed gas mixture.

9. (amended) A membrane process as in claim 1, wherein the process feed gas mixture is [which further comprises using] a process gas stream containing 25 vol% or less of carbon dioxide [as the process feed gas mixture].

10. (amended) A membrane process as in claim 1, wherein the process feed gas mixture is [which further comprises using] a process gas stream containing 11.7 vol% or less of carbon dioxide [as the process feed gas mixture].

11. (amended) A membrane process as in claim 1, wherein the process feed gas mixture contains carbon dioxide and [which further comprises the recovery of] carbon dioxide is recovered as the very high purity [a final] permeate gas product at a purity of more than